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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/672,705 | 09/29/2000 | Yoon Chae Cheong | 71493-897 | 2086 |
| 7380 | 7590 | 03/31/2004 | EXAMINER | |
| SMART & BIGGAR/FETHERSTONHAUGH & CO. P.O. BOX 2999, STATION D 55 METCALFE STREET OTTAWA, ON K1P5Y6 CANADA | | | JONES, PRENELL P | |
| | | ART UNIT | | PAPER NUMBER |
| | | 2667 | | |
| DATE MAILED: 03/31/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/672,705 | CHEONG ET AL. | |
| | Examiner | Art Unit | |
| | Prenell P Jones | 2667 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8 and 11-31 is/are rejected.
- 7) Claim(s) 9 and 10 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not **exceed 150 words** in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-5, 11-14, 16-22, 24-28, 30 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Doshi et al.

Regarding claims 1-5, 11-14, 16-22, 24-28, 30 and 31, Doshi discloses (Abstract, col. 3, line 41 thru col. 4, line 45) a packet communication system that includes a simple data link protocol which supports the use of self-synchronization/delineation techniques in a receiver, data-grams containing link control information, identifying multiple physical SDL links multiplexed into a single link, packet recovery with respect to packet header, packet boundary recovery function, (col. 6, line 17-55) SDL receiver scans for boundary information of next SDL packet, physical layer providing byte boundaries, ATM receiver knows where the next cell header starts, receiver enters a packet hunt state to discover the next location of the SDL header, when more than one bit error occurs in the header SDL receiver enters a hunt state to retrieve lost packets, (Fig. 1, col. 5, line 28-57) SDL Formatter receives data stream and formats the data stream into SDL packets, SDL transmitter/receiver, SDL packet extracts data-gram or payload and determines starting point of SDL packet, SDL allows high-speed delineation of asynchronous variable length data-grams, (col. 7, line 1-9) SDL deformatter finds a valid CRC and the next CRC is checked for frame boundary information, (col. 8, line 32-58, col. 10, line 10 thru 11, line 40) SDL deformatter delineates packet boundaries, SDL deformatter adds delineation bytes and LCP, PPP and NCP work over SDL with minimal modification.

Art Unit: 2667

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-8, 15, 23 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi et al in view of Czerwiec et al.

Regarding claims 6-8, 15, 23 and 29, as indicated above, Doshi discloses (Abstract, col. 3, line 41 thru col. 4, line 45) a packet communication system that includes a simple data link protocol which supports the use of self-synchronization/delineation techniques in a receiver, data-grams containing link control information, identifying multiple physical SDL links multiplexed into a single link, packet recovery with respect to packet header, packet boundary recovery function, (col. 6, line 17-55) SDL receiver scans for boundary information of next SDL packet, physical layer providing byte boundaries, ATM receiver knows where the next cell header starts, receiver enters a packet hunt state to discover the next location of the SDL header, when more than one bit error occurs in the header SDL receiver enters a hunt state to retrieve lost packets, (Fig. 1, col. 5, line 28-57) SDL Formatter receives data stream and formats the data stream into SDL packets, SDL transmitter/receiver, SDL packet extracts data-gram or payload and determines starting point of SDL packet, SDL allows high-speed delineation of asynchronous variable length data-grams, (col. 7, line 1-9) SDL defromatter finds a valid CRC and the next CRC is checked for frame boundary information, (col. 8, line 32-58, col. 10, line 10 thru 11, line 40) SDL defromatter delineates packet boundaries, SDL defromatter adds delineation bytes and LCP,

PPP and NCP work over SDL with minimal modification. However, Doshi is silent on layer 1 frames being OFDM symbols. In analogous art,

Czerwiec discloses (Abstract) an ATM communication system combined with xDSL for the purpose of providing access communication for a local loop, (col. 7, line 7-41, col. 21, line 20-29, col. 25, line 40 thru col. 26, line 20) ATM layer processing means, cell delineation associated with an ATM system, mapping/de-mapping is carried out with respect to the ATM system wherein DMT symbols (orthogonal symbols) are utilized for link initialization and maintenance, ATM cell delineation is associated with user-network interface with respect to the physical layer, ATM cell delineation uses the correlation between header error control and cell header, cell delineation is used when the ATM cell boundary identification is used and cell delineation searches the start of the payload/header. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement physical layer frames being orthogonal symbols as taught by Czerwiec with the teachings of Doshi for the purpose of providing link initialization/maintenance with respect to a packet communication system.

Allowable Subject Matter

6. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Although the cited art discloses a packet communication system that includes a simple data link protocol which supports the use of self-synchronization/delineation techniques in a receiver, data-grams containing link control information, identifying multiple physical SDL links multiplexed into a

Art Unit: 2667

single link, packet recovery with respect to packet header, packet boundary recovery function, SDL receiver scans for boundary information of next SDL packet, physical layer providing byte boundaries, ATM receiver knows where the next cell header starts, receiver enters a packet hunt state to discover the next location of the SDL header, when more than one bit error occurs in the header SDL receiver enters a hunt state to retrieve lost packets, SDL Formatter receives data stream and formats the data stream into SDL packets, SDL transmitter/receiver, SDL packet extracts data-gram or payload and determines starting point of SDL packet, SDL allows high-speed delineation of asynchronous variable length data-grams, SDL deformatter finds a valid CRC and the next CRC is checked for frame boundary information, SDL deformatter delineates packet boundaries, SDL deformatter adds delineation bytes and LCP, PPP and NCP work over SDL with minimal modification, an ATM communication system combined with xDSL for the purpose of providing access communication for a local loop, cell delineation associated with an ATM system, mapping/de-mapping is carried out with respect to the ATM system wherein DMT symbols are utilized for link initialization and maintenance, ATM cell delineation is associated with user-network interface with respect to the physical layer, ATM cell delineation uses the correlation between header error control and cell header, cell delineation is used when the ATM cell boundary identification is used and cell delineation searches the start of the payload/header they fail to teach/suggest boundary information being transmitted in punctured symbol locations within the layer 1 frame.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P Jones whose telephone number is 703-305-0630. The examiner can normally be reached on 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Prenell Jones



March 24, 2004



CHI PHAM
SUPERVISORY PATENT EXAMINER
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